CJC
EY

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|---|---|---|---|
| **Applicant:** | Christopher F. Claiborne, *et al.* | | |
| **Patent No.** | 7,053,089 B2 | | **Art Unit:** |
| **Date:** | May 30, 2006 | **Case No.:** 20832Y | 1626 |
| **Serial No.:** | 10/079,452 | | |
| **Filed:** | February 20, 2002 | | **Examiner:** |
| | | | Rao, D. |
| **For:** | N-SUBSTITUTED NONARYL-HETEROCYCLIC NMDA/NR2B ANTAGONISTS | | |

Attn: Certificate of Correction Branch
Commissioner for Patents
Office of Patent Publication
P.O. Box 1450
Alexandria, VA 22313-1450



## REQUEST FOR CERTIFICATE OF CORRECTION

Sir:

Applicants respectfully request that a Certificate of Correction be issued in the above-captioned U.S. Patent. The request is made to correct errors made by the Patent and Trademark Office when transcribing the application. Specifically, the Examiner's attention is directed to the amendment submitted on April 29, 2004 (attached), page 3, next-to-last line, which clearly recites "aryl $(CH_2)_{1-3}$-NH-C(O)-" and not "aryl$(CH_2)_{1-3}$-, -NH-C(O)-".

Respectfully submitted,

By: _____
David Rubin
Registration No. 40,314
Attorney for Applicants

MERCK & CO., INC.
P.O. Box 2000 - RY 60-30
Rahway, New Jersey 07065-0907
Telephone No. (732) 594-2675
Facsimile No. (732) 594-4720

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date appearing below.

MERCK & CO., INC.

By A Reynolds Date 5-1-07

Date: May 1, 2007

Approved for use through 01/31/2004. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Substitute for PTO/SB/44 (02/01), Certificate of Correction

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE

# CERTIFICATE OF CORRECTION

PATENT NO: U.S. 7,053,089 B2

DATED: May 30, 2006

INVENTOR(S): Christopher F. Claiborne, John W. Butcher, David A. Claremon, Brian E. Libby, Nigel J. Liverton, Peter M. Munson, Kevin T. Nguyen, Brian Phillips, Wayne Thompson, John A. McCauley.

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

In column 146, line 66, should read "(O)-, aryl$(CH_2)_{1-3}$-NH-C(O)-, aryl".

MAILING ADDRESS OF SENDER:
David Rubin
Patent Department
Merck & Co., Inc.
P.O. Box 2000, RY60-30
Rahway, NJ 07065-0907

PATENT NO. US 7,053,089 B2
No. of additional copies

[redacted]

Merck & Co., Inc.
P.O. Box 2000
Rahway, NJ 07065

Patent Department

RECEIVED
CENTRAL FAX CENTER
MAY 0 3 2004

# Facsimile Cover Sheet

OFFICIAL

**TODAY'S DATE:** April 29, 2004

***PLEASE DELIVER THE FOLLOWING MESSAGE TO:***

Examiner's Name: **Deepak Rao**

Examiner's fax number: **(703) 872-9306**

Group number: **1624**

***THIS MESSAGE IS FROM:***

Name: Mitul I. Desai

Phone No.: (732) 594-3190

Mail Location: RY60-30

Fax No.: (732) 594-4720

*RE:* Applicants: Claiborne et al.
Case No.: 20832Y
Serial No.: 10/079,452
Filed: February 20, 2002
Title: N-SUBSTITTUED NONARYL-HETEROCYCLIC NMDA/NR2B ANTAGONISTS

NUMBER OF PAGES BEING TRANSMITTED (INCLUDING COVER): 32

**IF YOU DO NOT RECEIVE ALL OF THE PAGES, PLEASE CALL**
**Mitul Desai at (732) 594-3190**

***CERTIFICATION OF FACSIMILE TRANSMISSION***

**I hereby certify that this paper is being facsimile transmitted to the Assistant Commissioner for Patents on the date shown below**

Mitul I. Desai
*Type or print name of person signing certification*

*Signature*

April 29, 2004
*Date*

**Amendments to the Specification:**

Please replace lines 9-12 on page 15 with the following amended paragraph:

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–, –N($C_{0-4}$alkyl)($C_{0-4}$alkyl), amino, nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–;

Please replace lines 26-29 on page 15 with the following amended paragraph:

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–, –N($C_{0-4}$alkyl)($C_{0-4}$alkyl), amino, nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–;

# PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2001

Application or Docket Number
~~20329-10079~~ 10/079,452

## CLAIMS AS FILED - PART I

| | (Column 1) | (Column 2) |
|---|---|---|
| TOTAL CLAIMS | 52 | |
| FOR | NUMBER FILED | NUMBER EXTRA |
| TOTAL CHARGEABLE CLAIMS | 52 minus 20= | * 32 |
| INDEPENDENT CLAIMS | 1 minus 3 = | * 0 |
| MULTIPLE DEPENDENT CLAIM PRESENT | | ☐ |

* If the difference in column 1 is less than zero, enter "0" in column 2

| SMALL ENTITY TYPE ☐ | | OR | OTHER THAN SMALL ENTITY | |
|---|---|---|---|---|
| RATE | FEE | | RATE | FEE |
| BASIC FEE | 370.00 | OR | BASIC FEE | 740.00 |
| X$ 9= | | OR | X$18= | 576 |
| X42= | | OR | X84= | - |
| +140= | | OR | +280= | - |
| TOTAL | | OR | TOTAL | |

## CLAIMS AS AMENDED - PART II

11-29-04

AMENDMENT A

| | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA |
|---|---|---|---|---|
| Total | * 52 | Minus | ** 52 | = 0 |
| Independent | * 1 | Minus | *** 1 | = 0 |
| FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM | | | | ☐ |

| SMALL ENTITY | | OR | OTHER THAN SMALL ENTITY | |
|---|---|---|---|---|
| RATE | ADDITIONAL FEE | | RATE | ADDITIONAL FEE |
| X$ 9= | | OR | X$18= | |
| X42= | | OR | X84= | |
| +140= | | OR | +280= | |
| TOTAL ADDIT. FEE | | OR | TOTAL ADDIT. FEE | |

AMENDMENT B

| | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA |
|---|---|---|---|---|
| Total | * | Minus | ** | = |
| Independent | * | Minus | *** | = |
| FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM | | | | ☐ |

| RATE | ADDITIONAL FEE | | RATE | ADDITIONAL FEE |
|---|---|---|---|---|
| X$ 9= | | OR | X$18= | |
| X42= | | OR | X84= | |
| +140= | | OR | +280= | |
| TOTAL ADDIT. FEE | | OR | TOTAL ADDIT. FEE | |

AMENDMENT C

| | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA |
|---|---|---|---|---|
| Total | * | Minus | ** | = |
| Independent | * | Minus | *** | = |
| FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM | | | | ☐ |

| RATE | ADDITIONAL FEE | | RATE | ADDITIONAL FEE |
|---|---|---|---|---|
| X$ 9= | | OR | X$18= | |
| X42= | | OR | X84= | |
| +140= | | OR | +280= | |
| TOTAL ADDIT. FEE | | OR | TOTAL ADDIT. FEE | |

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.



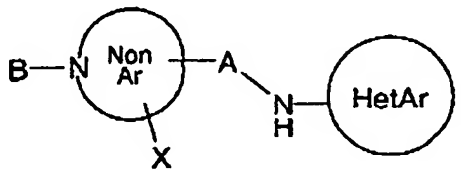
10/079,452

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1(currently amended): A compound having the formula (I):




(I)

or a pharmaceutically acceptable salt thereof, wherein

NonAr is a nonaromatic 5-7 membered ring containing 1 or 2 nitrogen ring atoms or an aza bicyclo octane ring;

HetAr is a 5 or 6 membered heteroaromatic ring containing 1-3 nitrogen ring atoms, or isoxazolyl, thiazolyl, thiadiazolyl, quinolinyl, quinazolinyl, purinyl, pteridinyl, benzimidazolyl, pyrrolopyrimidinyl, or imidazopyridinyl;

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)N$CH_2$–, ($C_{1-2}$alkyl)HN$CH_2$–, Si$(CH_3)_3$–C–, or $NH_2C(O)$–;

A is –$C_{1-4}$alkyl–;

B is aryl$(CH_2)_{0-3}$–O–C(O)–, heteroaryl$(CH_2)_{1-3}$–O–C(O)–, indanyl$(CH_2)_{0-3}$–O–C(O)–, aryl$(CH_2)_{1-3}$–C(O)–, aryl–cyclopropyl–C(O)–, heteroaryl–cyclopropyl–C(O)–, heteroaryl$(CH_2)_{1-3}$–C(O)–, [[aryl$(CH_2)_{1-3}$–,]] [[heteroaryl$(CH_2)_{1-3}$–,]] aryl$(CH_2)_{1-3}$–NH–C(O)–, aryl$(CH_2)_{1-3}$–NH–C(NCN)–, aryl$(CH_2)_{1-3}$–$SO_2$–, heteroaryl$(CH_2)_{1-3}$–$SO_2$–, wherein any of the

aryl or heteroaryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro; and

X is H, OH, F, $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $NH_2$, or X taken with an adjacent bond is =O.

Claim 2(previously presented): The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein

NonAr is a nonaromatic 6 membered ring containing 1 nitrogen ring atom; and

B is aryl$(CH_2)_{0-3}$–O–C(O)–, wherein the aryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 3(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is a 6 membered heteroaromatic ring containing 1 nitrogen ring atom;

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 4(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is an isoxazolyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 5(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is a thiadiazolyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)N$CH_2$–, ($C_{1-2}$alkyl)HN$CH_2$–, Si$(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 6(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is a 5 membered heteroaromatic ring containing 2 nitrogen ring atoms;

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)N$CH_2$–, ($C_{1-2}$alkyl)HN$CH_2$–, Si$(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 7(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is quinolinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)N$CH_2$–, ($C_{1-2}$alkyl)HN$CH_2$–, Si$(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 8(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is purinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)N$CH_2$–, ($C_{1-2}$alkyl)HN$CH_2$–, Si$(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 9(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is a 6 membered heteroaromatic ring containing 2 nitrogen ring atoms;

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 10(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is thiazolyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 11(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is pteridinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 12(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is pyrrolopyrimidinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 13(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is a imidazopyridinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)N$CH_2$–, ($C_{1-2}$alkyl)HN$CH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 14(previously presented): The compound according to Claim 2, or a pharmaceutically acceptable salt thereof, wherein

HetAr is benzimidazolyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)N$CH_2$–, ($C_{1-2}$alkyl)HN$CH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 15(previously presented): The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein

NonAr is a nonaromatic 6 membered ring containing 1 nitrogen ring atom; and

B is aryl$(CH_2)_{1-3}$–$SO_2$–, wherein the aryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 16(previously presented): The compound according to Claim 15, or a pharmaceutically acceptable salt thereof, wherein

HetAr is a 6 membered heteroaromatic ring containing 2 nitrogen ring atoms;

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)N$CH_2$–, ($C_{1-2}$alkyl)HN$CH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 17(previously presented): The compound according to Claim 15, or a pharmaceutically acceptable salt thereof, wherein

HetAr is quinazolinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 18(previously presented): The compound according to Claim 15, or a pharmaceutically acceptable salt thereof, wherein

HetAr is purinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 19(previously presented): The compound according to Claim 15, or a pharmaceutically acceptable salt thereof, wherein

HetAr is imidazopyridinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 20(previously presented): The compound according to Claim 15, or a pharmaceutically acceptable salt thereof, wherein

HetAr is a 6 membered heteroaromatic ring containing 1 nitrogen ring atom; and

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–,

heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 21(withdrawn): The compound according to Claim 1, or pharmaceutically acceptable salts thereof, wherein

NonAr is a nonaromatic 5 membered ring containing 1 nitrogen ring atom; and

B is aryl$(CH_2)_{0-3}$–O–C(O)–, wherein the aryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 22(withdrawn): The compound according to Claim 21, or pharmaceutically acceptable salts thereof, wherein

HetAr is a 6 membered heteroaromatic ring containing 2 nitrogen ring atoms;

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 23(withdrawn): The compound according to Claim 21, or pharmaceutically acceptable salts thereof, wherein

HetAr is pteridinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 24(withdrawn): The compound according to Claim 21, or pharmaceutically acceptable salts thereof, wherein

HetAr is purinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–,

heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 25(withdrawn): The compound according to Claim 21, or pharmaceutically acceptable salts thereof, wherein

HetAr is benzimidazolyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 26(withdrawn): The compound according to Claim 1, or pharmaceutically acceptable salts thereof, wherein

NonAr is an aza bicyclo octane ring; and

B is aryl$(CH_2)_{0-3}$–O–C(O)–, wherein the aryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 27(withdrawn): The compound according to Claim 26, or pharmaceutically acceptable salts thereof, wherein

HetAr is a 6 membered heteroaromatic ring containing 1 nitrogen ring atom; and

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 28(withdrawn): The compound according to Claim 26, or pharmaceutically acceptable salts thereof, wherein

HetAr is purinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–,

heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 29(withdrawn): The compound according to Claim 26, or pharmaceutically acceptable salts thereof, wherein

HetAr is a 6 membered heteroaromatic ring containing 2 nitrogen ring atom; and

HetAr is optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 30(withdrawn): The compound according to Claim 1, or pharmaceutically acceptable salts thereof, wherein

NonAr is an aza bicyclo octane ring; and

B is aryl$(CH_2)_{1-3}$–$SO_2$–, wherein the aryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 31(previously presented): The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein

NonAr is a nonaromatic 6 membered ring containing 1 nitrogen ring atom; and

B is heteroaryl$(CH_2)_{1-3}$–C(O)–, wherein the heteroaryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 32(previously presented): The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein

NonAr is a nonaromatic 6 membered ring containing 1 nitrogen ring atom; and

B is aryl$(CH_2)_{1-3}$–C(O)–, wherein the aryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 33(previously presented): The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein

NonAr is a nonaromatic 6 membered ring containing 1 nitrogen ring atom; and

B is aryl–cyclopropyl–C(O)–, wherein the aryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 34(previously presented): The compound according to Claim 33, or a pharmaceutically acceptable salt thereof, wherein

HetAr is pyridyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 35(previously presented): The compound according to Claim 33, or a pharmaceutically acceptable salt thereof, wherein

HetAr is pyrazinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 36(previously presented): The compound according to Claim 33, or a pharmaceutically acceptable salt thereof, wherein

HetAr is pyridazinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 37(previously presented): The compound according to Claim 33, or a pharmaceutically acceptable salt thereof, wherein

HetAr is pyrimidinyl optionally substituted with 1 or 2 substituents, each substituent independently is $C_{1-4}$alkyl, $C_{1-4}$alkoxy, $C_{2-4}$alkynyl, trifluoromethyl, hydroxy, hydroxy$C_{1-4}$alkyl, fluoro, chloro, bromo, iodo, cyano, methylsulfanyl, cyclopropylethynyl–, phenylethynyl–, heteroarylethynyl–,–N($C_{0-4}$alkyl)($C_{0-4}$alkyl), nitro, ($C_{1-2}$alkyl)($C_{1-2}$alkyl)$NCH_2$–, ($C_{1-2}$alkyl)$HNCH_2$–, $Si(CH_3)_3$–C–, or $NH_2C(O)$–.

Claim 38(previously presented): The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein

NonAr is a nonaromatic 6 membered ring containing 1 nitrogen ring atom; and

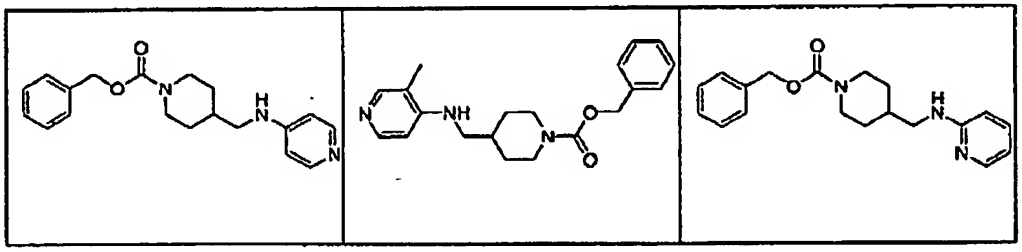
B is heteroaryl$(CH_2)_{1-3}$–O–C(O)–, wherein the heteroaryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro;.

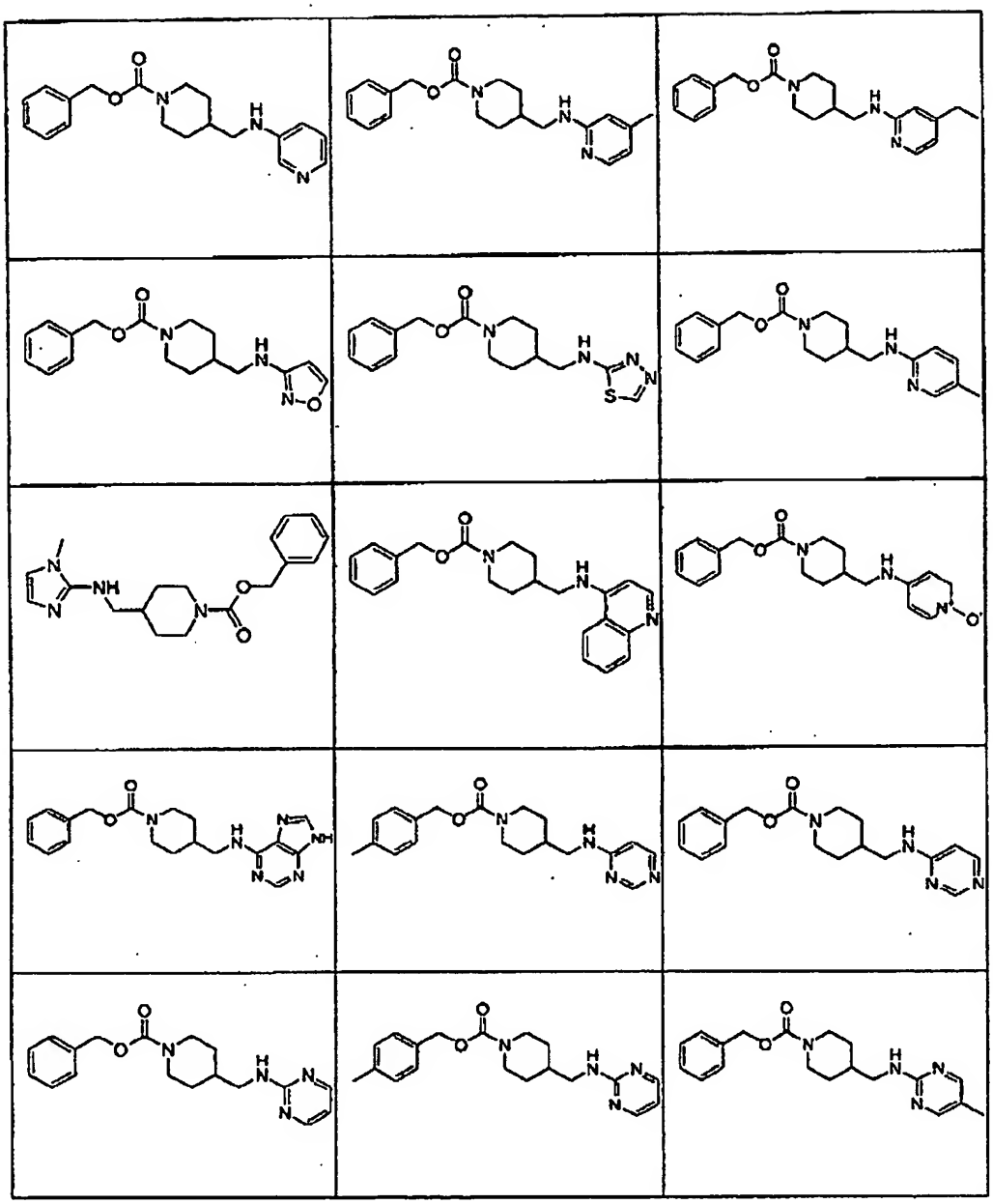
Claim 39(previously presented): The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein

NonAr is a nonaromatic 6 membered ring containing 1 nitrogen ring atom; and

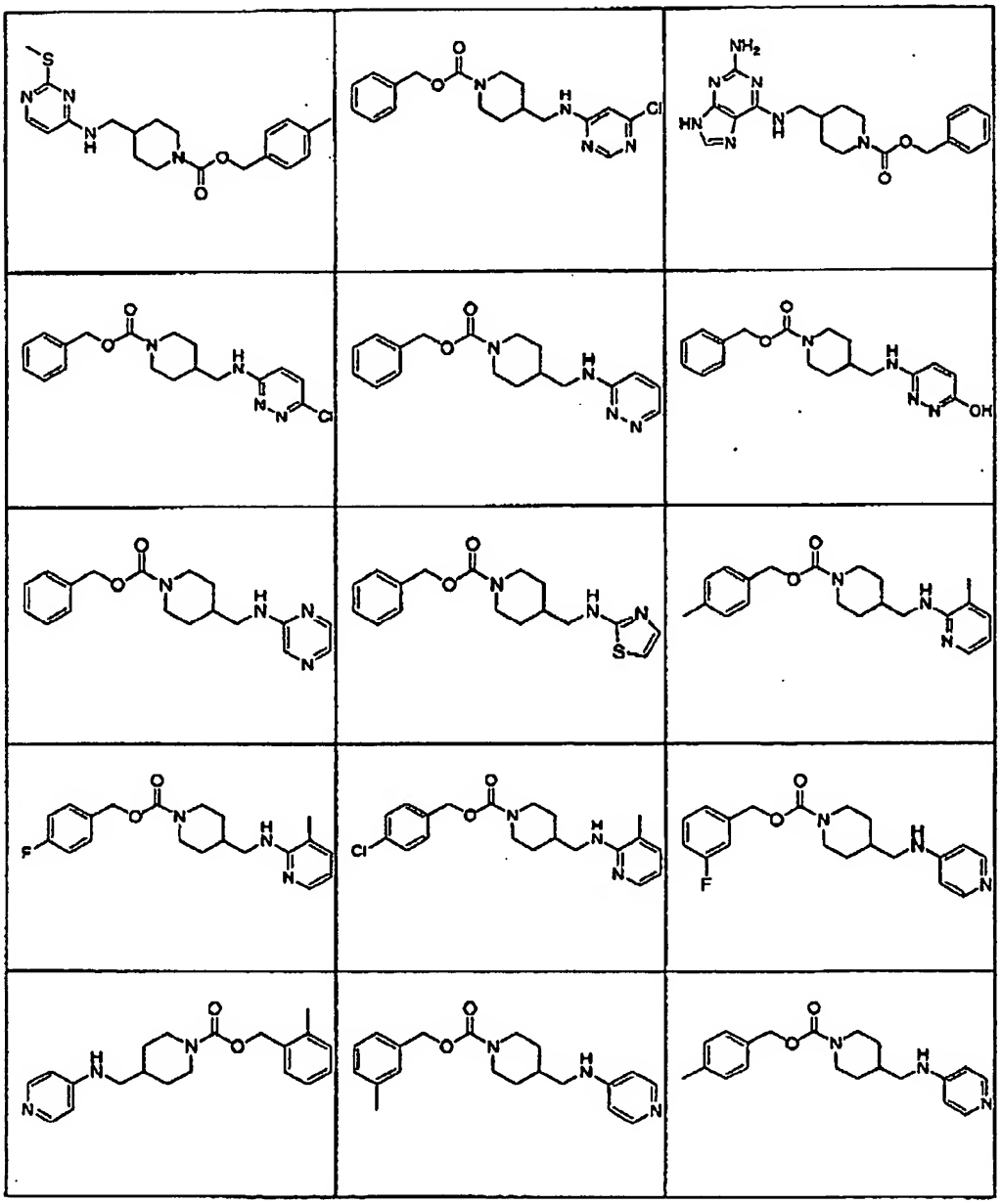
B is aryl$(CH_2)_{1-3}$–NH–C(NCN)–, wherein the aryl is optionally substituted by 1-5 substitutents, each substituent independently is $C_{1-4}$alkyl, $C_{3-6}$cycloalkyl, $C_{1-4}$alkoxy, trifluoromethyl, bromo, fluoro, or chloro.

Claim 40(original): The compound according to Claim 1, wherein said compound is

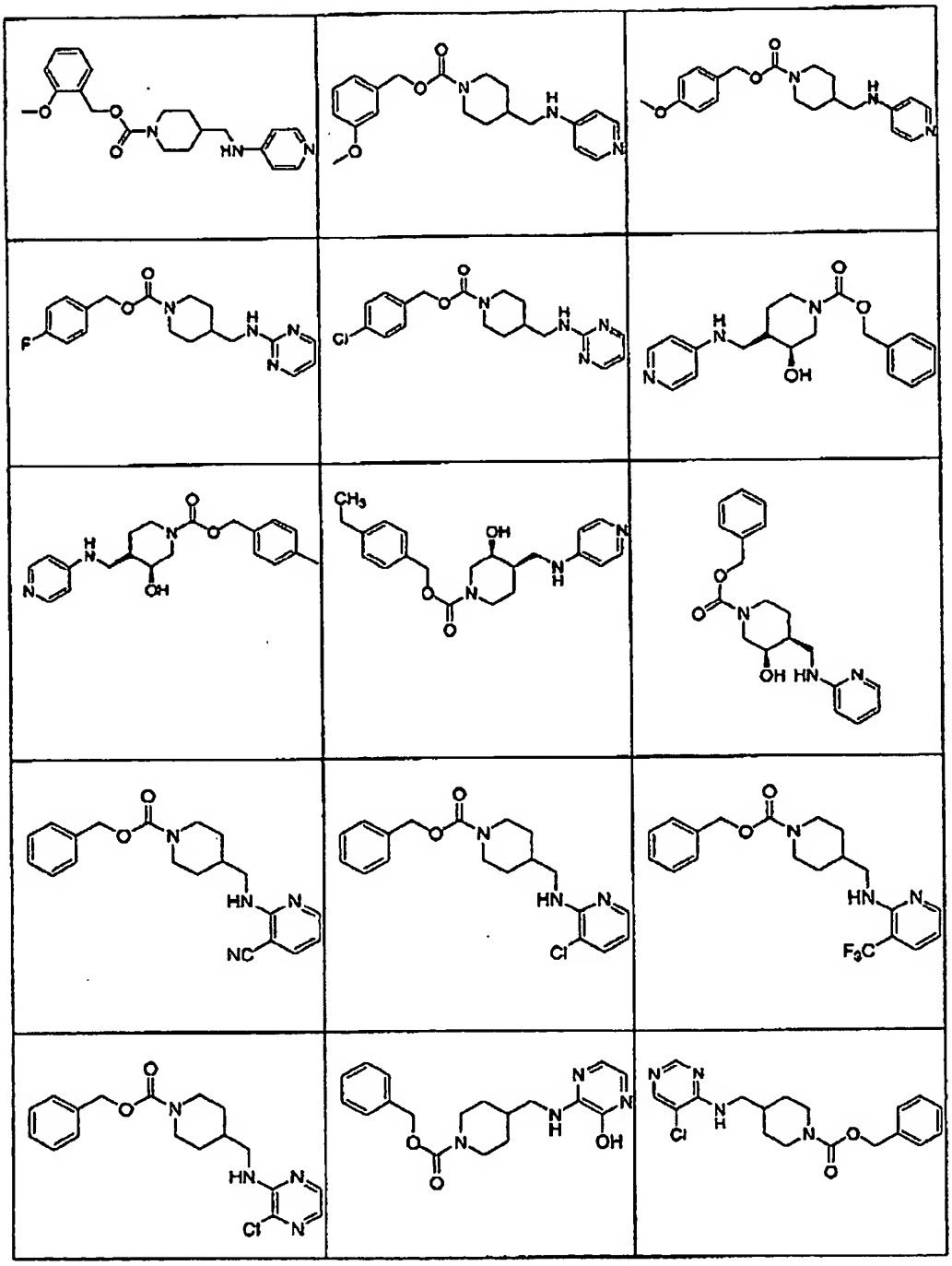




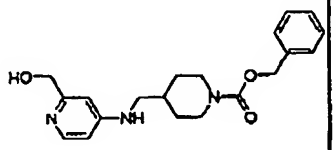
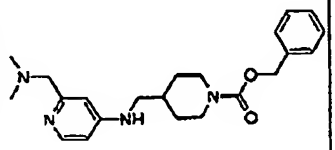
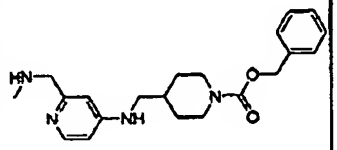
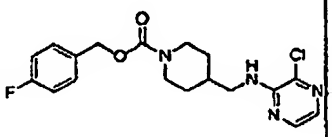
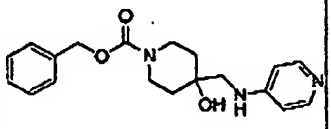
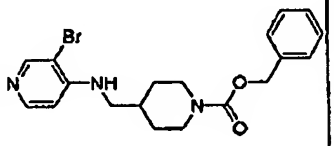
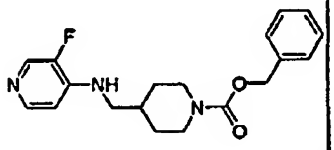
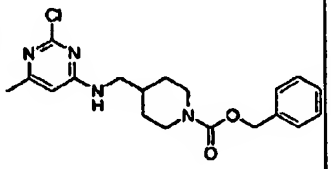
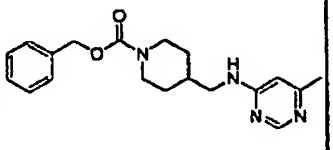
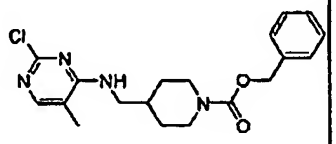
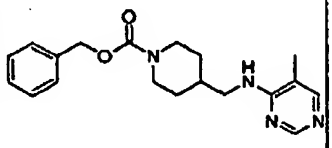
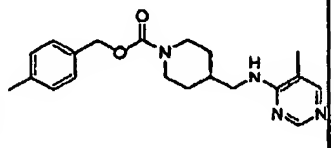
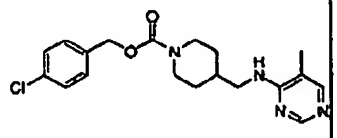
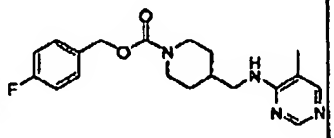
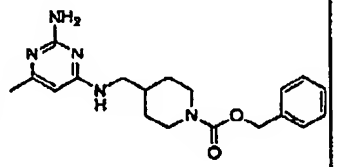
Serial No.: 10/079,452
Case No.: 20832Y
Page No.: 15



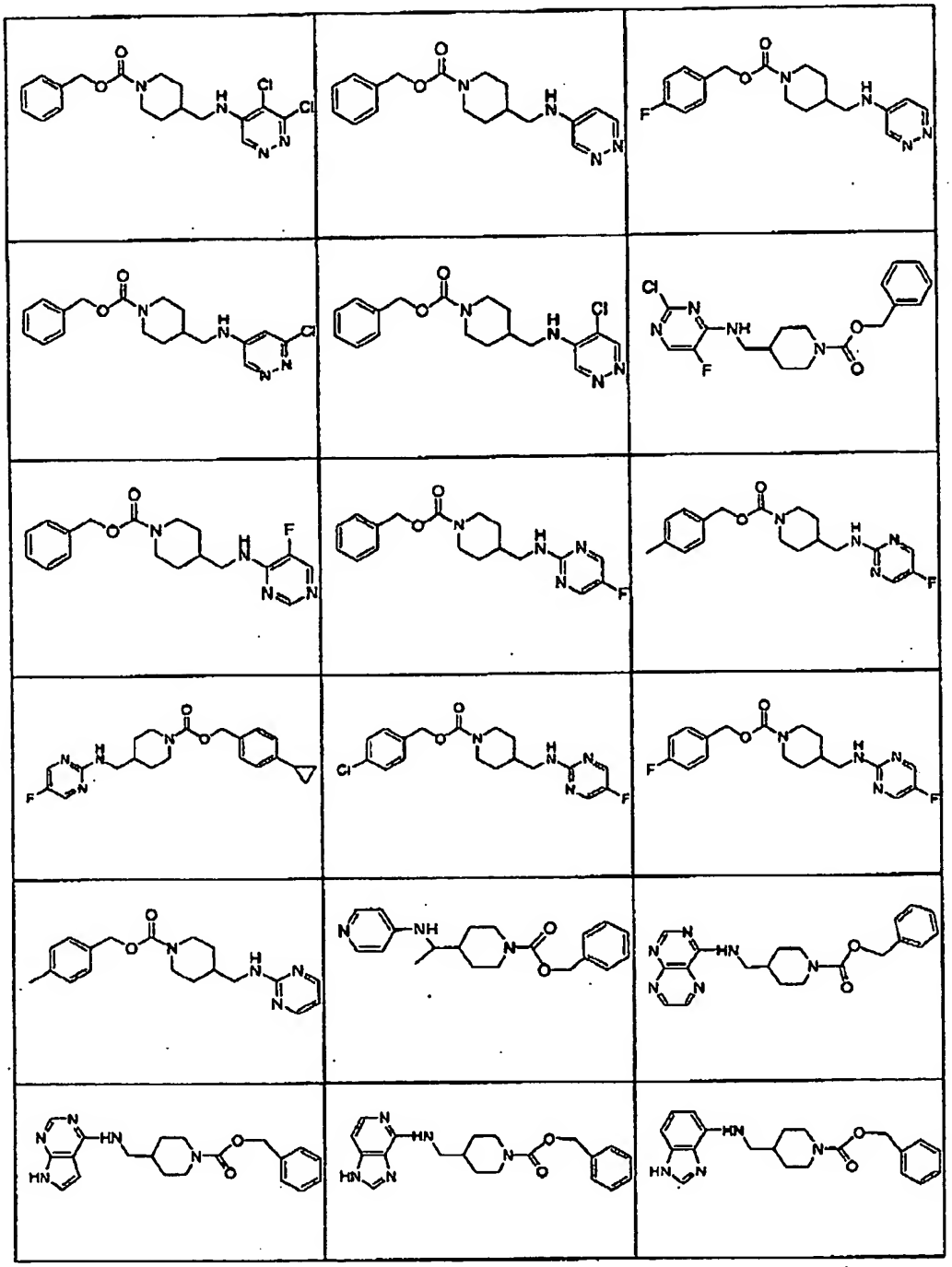
Serial No.: 10/079,452
Case No.: 20832Y
Page No.: 16

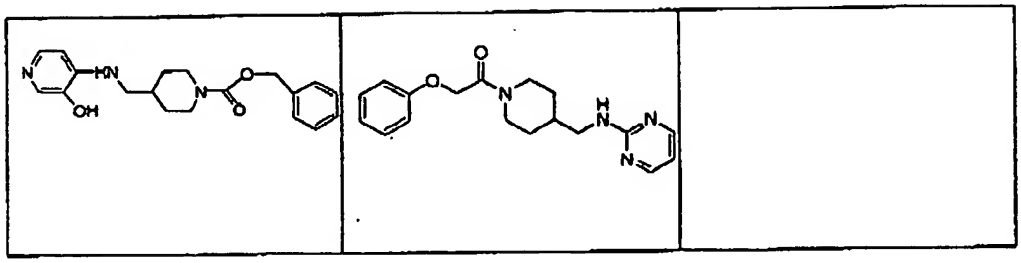


Serial No.: 10/079,452
Case No.: 20832Y
Page No.: 17

| | | |
|---|---|---|
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

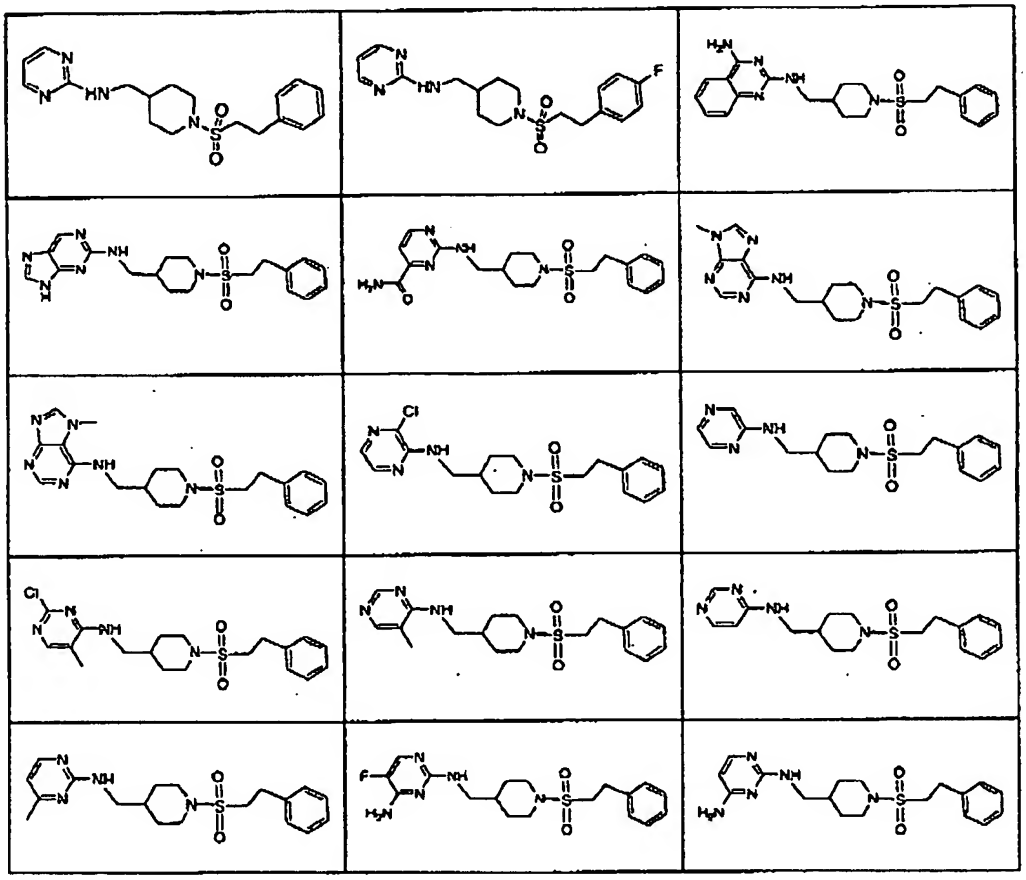
Serial No.: 10/079,452
Case No.: 20832Y
Page No.: 18

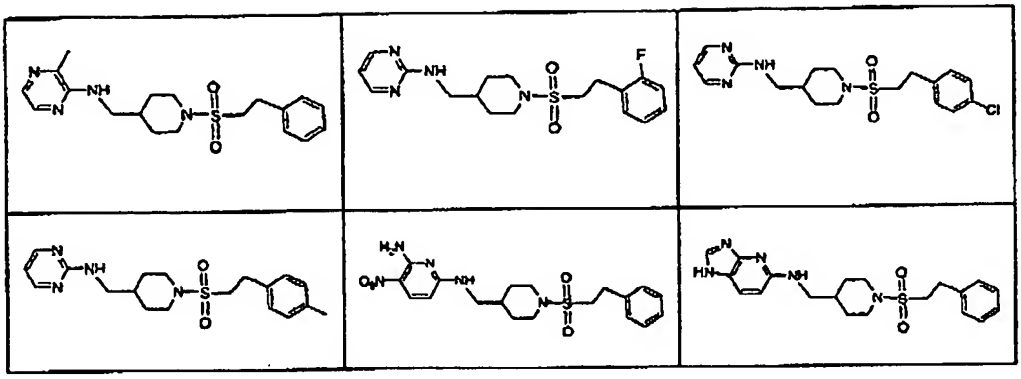




or a pharmaceutically acceptable salt thereof.

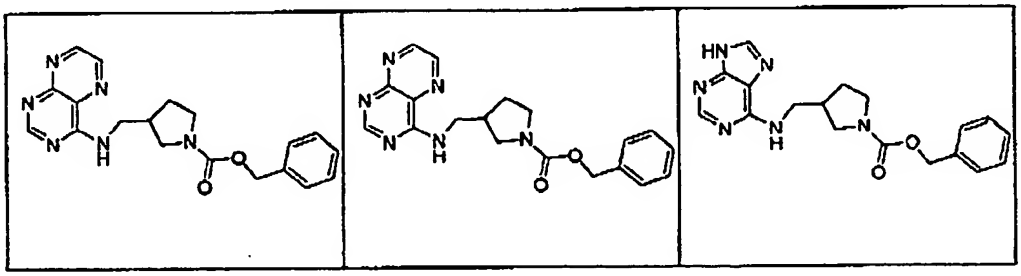
Claim 41(original): The compound according to Claim 1, wherein said compound is





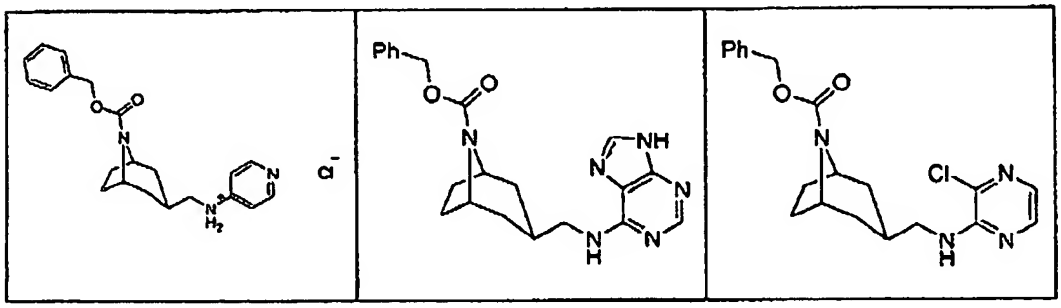
or a pharmaceutically acceptable salt thereof.

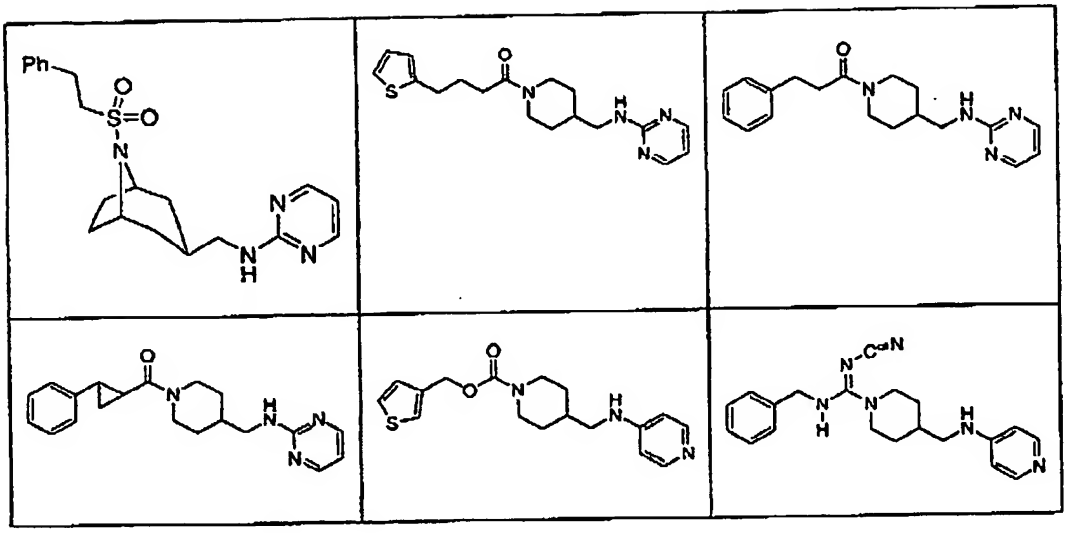
Claim 42(withdrawn): The compound according to Claim 1, wherein said compound is



or a pharmaceutically acceptable salt thereof.

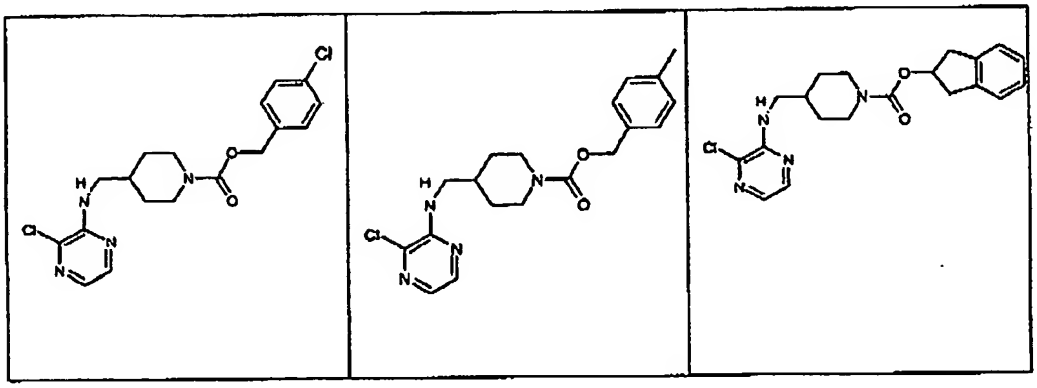
Claim 43(original): The compound according to Claim 1, wherein said compound is



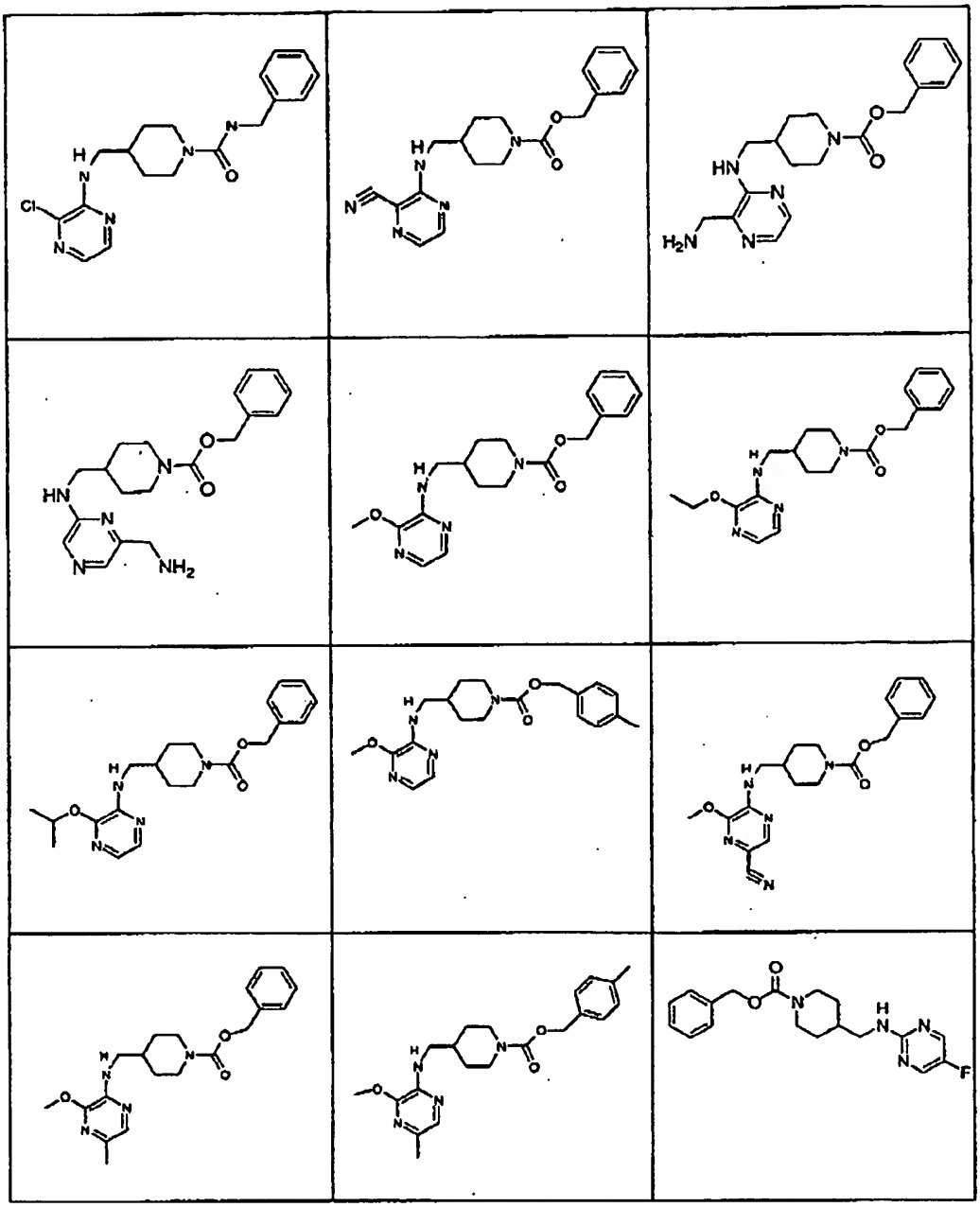


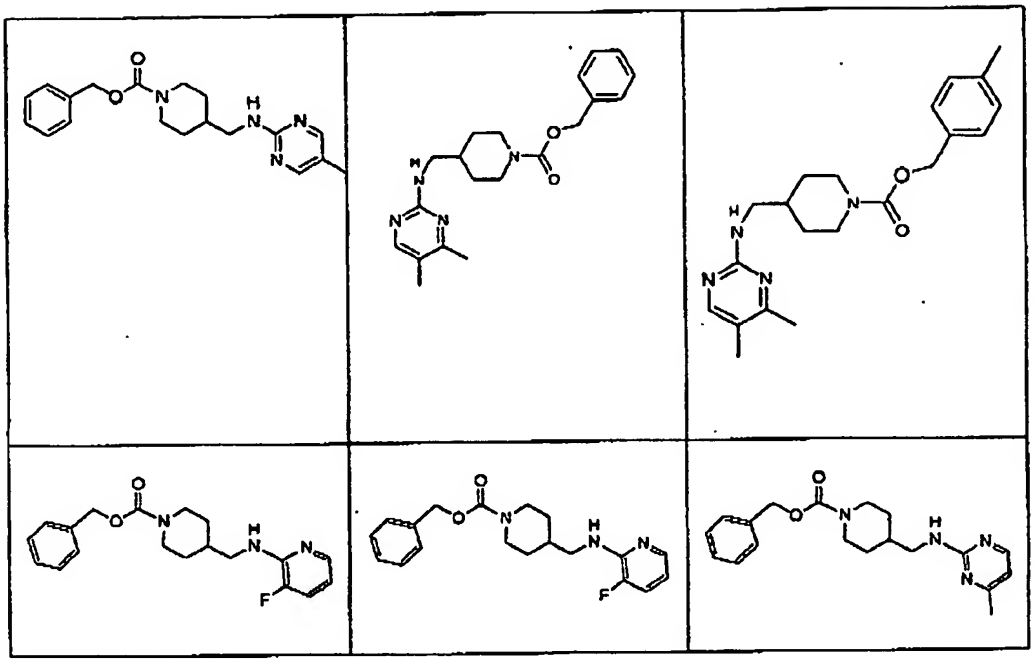
or a pharmaceutically acceptable salt thereof.

Claim 44(previously presented): The compound according to Claim 1, wherein said compound is



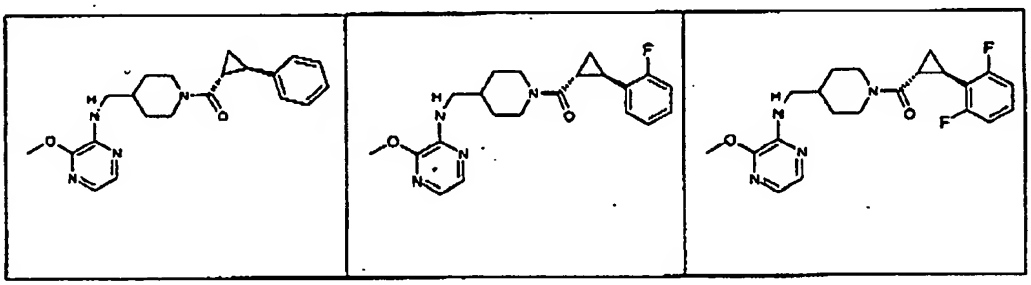
Serial No.: 10/079,452
Case No.: 20832Y
Page No.: 22



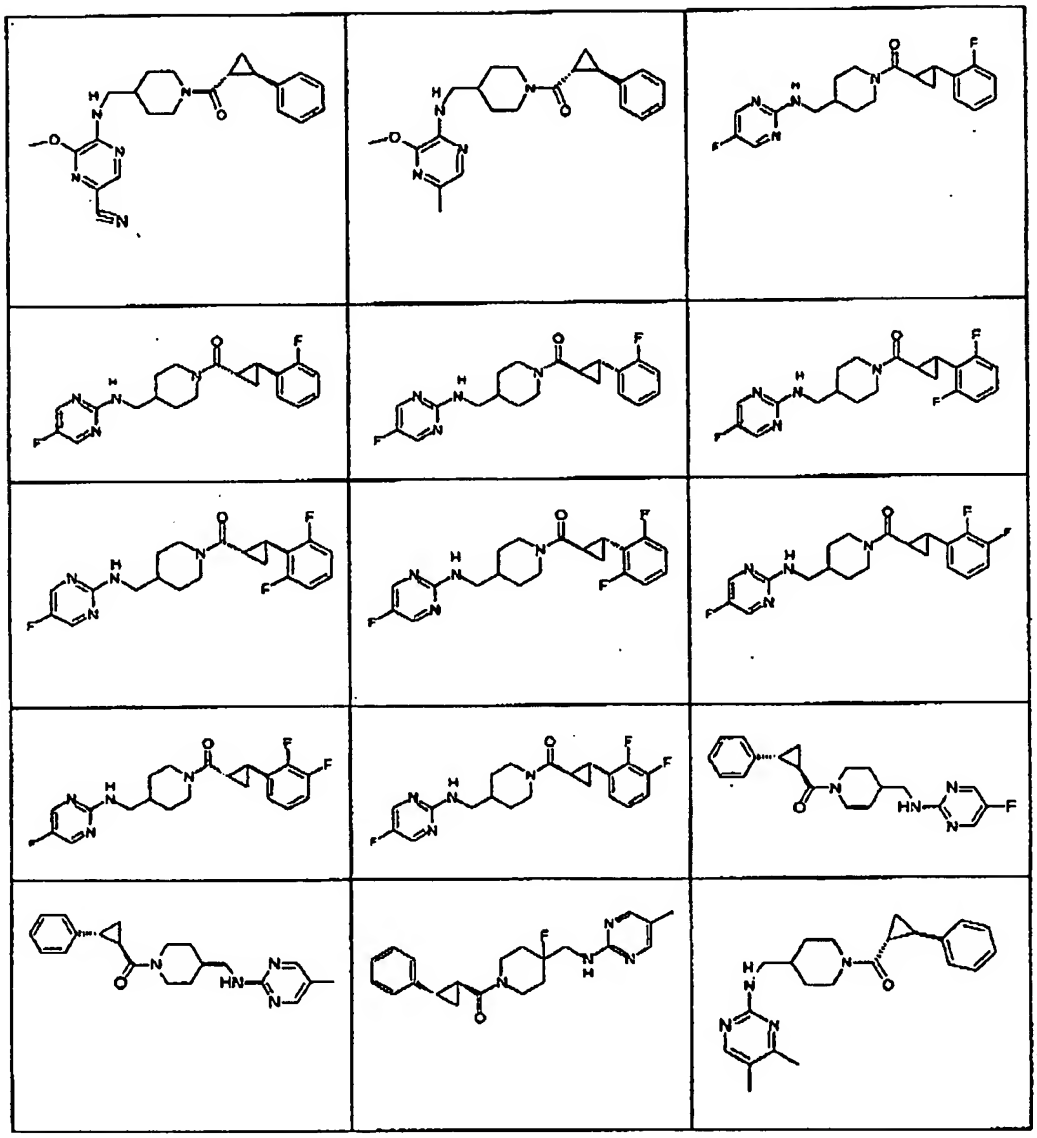


or a pharmaceutically acceptable salt thereof.

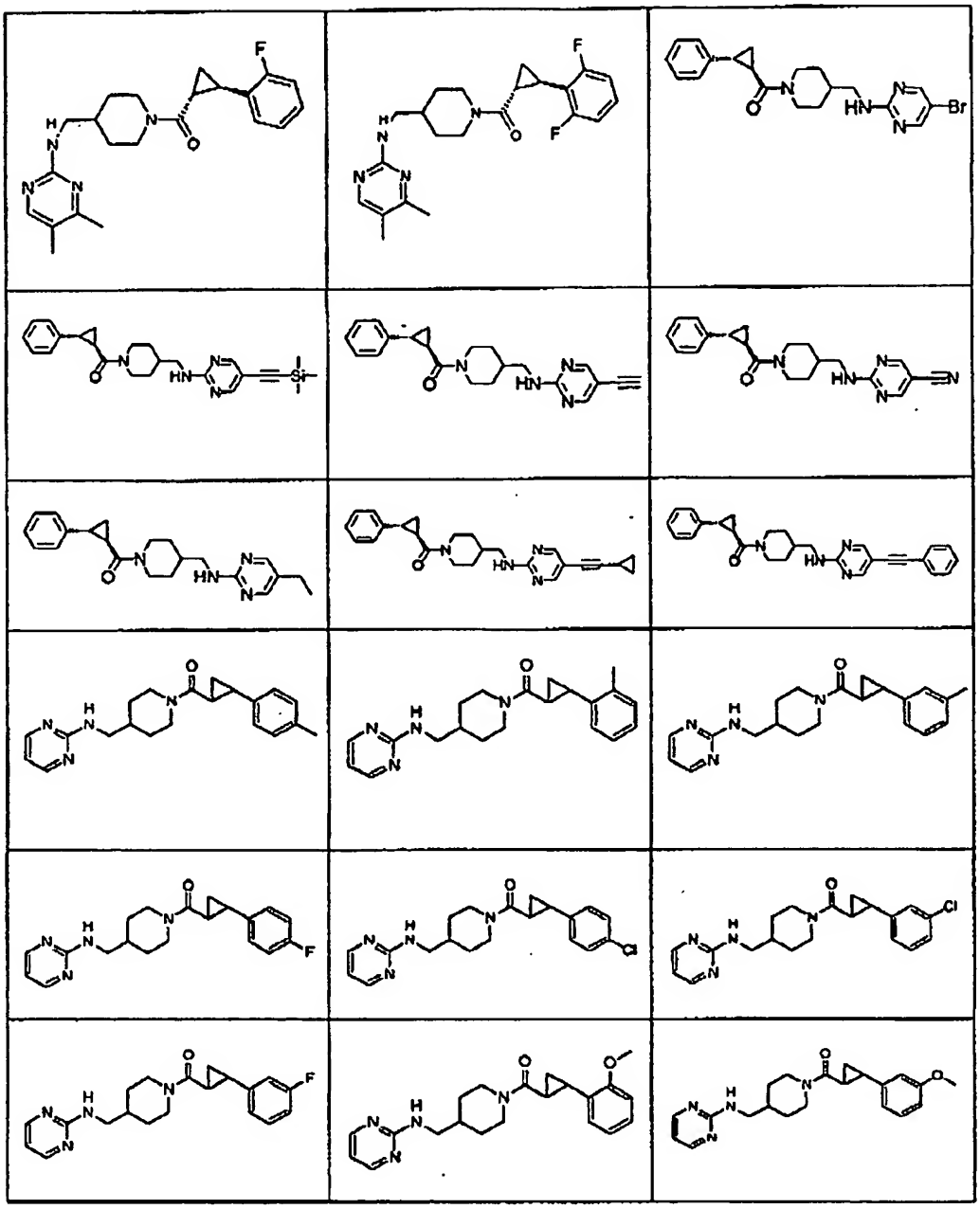
Claim 45(previously presented): The compound according to Claim 1, wherein said compound is

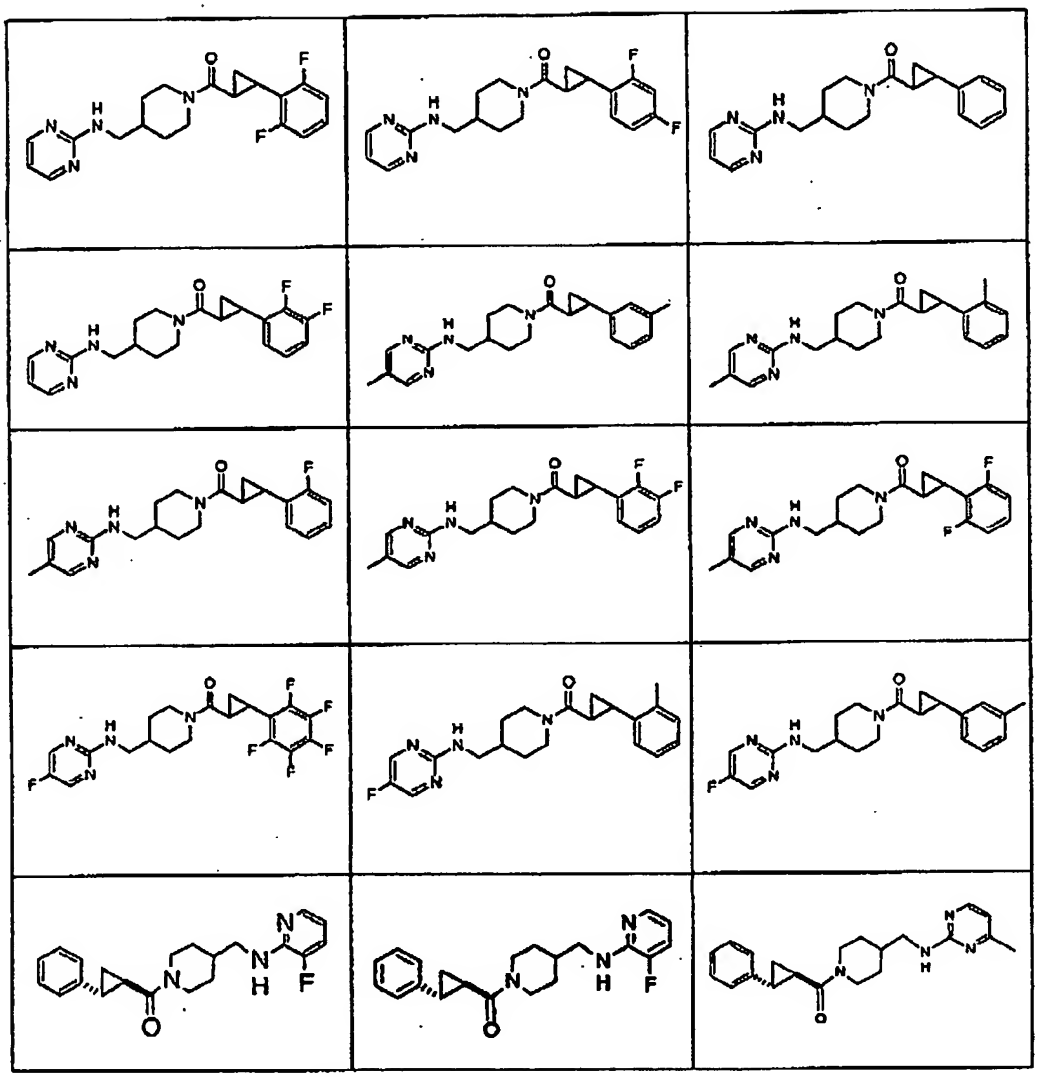


Serial No.: 10/079,452
Case No.: 20832Y
Page No.: 24



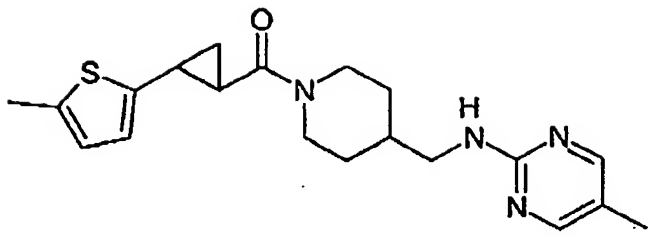
Serial No.: 10/079,452
Case No.: 20832Y
Page No.: 25





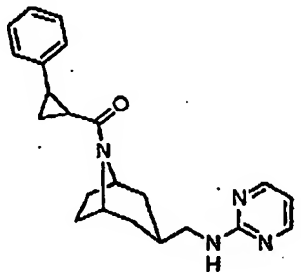
or a pharmaceutically acceptable salt thereof.

Claim 46(previously presented): The compound according to Claim 1, wherein said compound is



or a pharmaceutically acceptable salt thereof.

Claim 47(withdrawn): The compound according to Claim 1, wherein said compound is



or a pharmaceutically acceptable salt thereof.

Claim 48(original): A pharmaceutical composition comprising an inert carrier and an effective amount of a compound according to claim 1.

Claim 49(previously presented): A pharmaceutical composition comprising an inert carrier and an amount of a compound according to claim 1 effective to treat pain.

Claim 50(previously presented): A pharmaceutical composition comprising an inert carrier and an amount of a compound according to claim 1 effective to treat migraine, depression, anxiety, schizophrenia, Parkinson's disease, or stroke.

Claim 51(original): A method of treating pain comprising a step of administering to one in need of such treatment an effective amount of a compound according to claim 1.

Claim 52(original): A method of treating migraine, depression, anxiety, schizophrenia, Parkinson's disease, or stroke comprising a step of administering to one in need of such treatment an effective amount of a compound according to claim 1.

## REMARKS

Claims 1-52 are presently pending. Favorable reconsideration and allowance of this application, as amended and responded to herein, is respectfully requested.

**Election of Group**

Examiner states "[b]ecause applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated without traverse." It is respectfully pointed out that in the Response dated October 3, 2003, Applicants stated "[a]pplicants affirm the provisional election, with traverse, made during a telephone conversation with Examiner Rao on May 6, 2003." Applicants thus respectfully request the record to indicate that the election be treated with traverse.

**Amendment to Specification**

The instant specification has been amended simply to bring it into conformity with the claims as originally filed. "The claims as filed in the original specification are part of the disclosure and, therefore, if an application as originally filed contains a claim disclosing material not found in the remainder of the specification, the applicant may amend the specification to include the claimed subject matter." MPEP § 2163, citing *In re Benno*, 768 F.2d 1340 (Fed. Cir. 1985). Since instant Claim 22 as originally filed contains the subject matter added herein to the specification, no new matter is added by this amendment to the specification.

**The 35 U.S.C. § 102 Rejection**

Claims 1, 9, and 48-52 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Van Lommen et al., WO 93/17017. The Examiner states that "the instantly claimed compounds read on the compounds of the reference." The Examiner specifically points to reference disclosed compounds in Table 1, pages 45-49, particularly compounds 38-43.

Claim 1 has been amended to exclude compounds where B is aryl$(CH_2)_{1-3}$, or heteroaryl$(CH_2)_{1-3}$. Applicants respectfully submit that the instant claims, as amended herein, are not anticipated by the cited reference. Applicants thus deem this rejection obviated and respectfully request withdrawal thereof.

In view of the foregoing amendments and remarks it is firmly believed that the subject invention is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

By: 

Mitul I. Desai
Reg. No. 46,661
Attorney for Applicants

Merck & Co., Inc.
P.O. Box 2000
Rahway, NJ 07065-0907
(732) 594-3190

Date: April 29, 2004